






# Sun in Technical Computing — Ultra™ Workstation Overview

	 <b>Ultra™ 5</b>	 <b>Ultra 10</b>	 <b>Ultra 30</b>	 <b>Ultra 60</b>
<b>Processor</b>	270-MHz UltraSPARC™-Ili	300-MHz UltraSPARC-IIi	300-MHz UltraSPARC-II	300-MHz UltraSPARC-II Up to 2 processors
<b>Cache</b>	256-KB Level 2	512-KB Level 2	2-MB Level 2	2-MB Level 2
<b>Memory</b>				
<b>Minimum</b>	64-MB	64-MB	128-MB	
<b>Maximum</b>	512-MB	1-GB	2-GB	
<b>Performance</b>				
SPECint95	9.16	12.1	12.1	13.0/13.0 2-way
SPECfp95	10.1	12.9	18.3	18.3/23.5 2-way
SPECbase_int95	7.42	9.5	10.2	—/10.5 2-way
SPECbase_fp95	9.15	12.1	16.2	—/20.2 2-way
<b>Disk Storage (Internal)</b>	EIDE interface	EIDE interface	UltraSCSI	UltraSCSI
<b>Minimum</b>	4.3-GB	4.3-GB	2.1-GB	
<b>Maximum</b>	4.3-GB	8.6-GB	18.2-GB	
<b>Disk Storage (External)</b>	PCI bus based expansion		UltraSCSI and PCI bus based expansion	
<b>System Interconnect</b>	UPA (internal only)		UPA @ 100-MHz	UPA @ 100 to 120-MHz
<b>Other</b>	1.44-MB floppy 2x serial, 1 parallel 16-bit audio, rack-mountable			
<b>Networking</b>				
<b>Standard</b>	10/100BaseT Ethernet			
<b>Optional</b>	PCI bus based options			
<b>Expansion</b>	3 PCI @ 33-MHz (2 long, 1 short)	4 PCI @ 33-MHz (long)	2 UPA @ 100-MHz 1 PCI @ 66/33-MHz/64-bit 3 PCI @ 33-MHz/64-bit UltraSCSI	2 UPA @ 100 to 120-MHz 1 PCI @ 66/33-MHz/64-bit 3 PCI @ 33-MHz/64-bit 2 x UltraSCSI
<b>Graphics Options</b>	PCI graphics: PGX (onboard and option)	PCI graphics: PGX (onboard and option)  UPA graphics: Creator, Creator3D, Elite3D m3	PCI graphics: PGX  UPA graphics: Creator, Creator3D, Elite3D m3, Elite3D m6	
<b>External Tape Backup</b>	PCI bus based tape options		2.5-GB QIC, 4- to 8-GB DDS-2 4-mm tape, 12- to 24-GB 8-mm DDS-3, 20- to 40-GB 8-mm, 72- to 144-GB 4-mm DDS-3 Autoloader, SPARCstorage™ Library Model 8/140, 35- to 70-GB DLT7000	
<b>Additional Options</b>	Third-party PCMCIA, CD-ROM (24x), PCI bus based networking (ATM, FDDI, ISDN, high-speed serial, etc.)			
<b>Display</b>	17," 19," and 21" based on configuration	17," 19," 21," and 24" based on configuration	21" and 24" based on configuration	21" and 24" based on configuration
<b>Enclosure Dimensions</b>	109.5-mm (H) x 436-mm (W) x 424-mm (D)	400-mm (H) x 166-mm (W) x 420-mm (D)	445-mm (H) x 191-mm (W) x 498-mm (D)	
<b>Solaris™ Environment</b>	Solaris 2.5.1 (11/97) Solaris 2.6 (3/98)		Solaris 2.5.1 (4/97) Solaris 2.6 (3/98)	Solaris 2.5.1 (11/97) Solaris 2.6 (3/98)

# Sun in Technical Computing — Ultra Workstation Graphics Overview



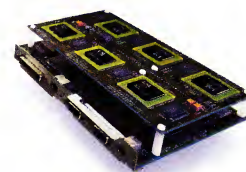
**Creator series 3**



**Creator3D series 3**



**Elite3D m3**



**Elite3D m6**

## Application Areas

### Markets

EDA, color preprocess, medical imaging, earth resources, GIS, finance, software development

MCAD/MCAE, AEC, animation, digital content creation, medical imaging, earth resources, GIS, oil & gas, VR

MCAD/MCAE, AEC, animation, digital content creation, styling, simulation, earth resources, GIS, oil & gas, VR

## Features

Color Planes	24-bit	
Overlay Planes	8-bit	8-bit SOV-compliant pseudocolor
Double Buffer Planes	8-bit	24-bit
Stencil Planes	—	4-bit (full OpenGL® stencil support)
Z-Buffer (Depth)	—	28-bit
Total Planes	32	96
Colormaps	Multiple hardware-based colormaps	
Additional Features	Accelerated text, windowing, 2-D/3-D vectors, line antialiasing, per-pixel depth-cueing, alpha/screen door transparency, VIS™ accelerated imaging and texture mapping, adjustable gamma correction, stereo	Accelerated text, windowing, 2-D/3-D vectors, Gouraud shading, line antialiasing, per-pixel depth-cueing, alpha/screen door transparency, VIS accelerated imaging and texture mapping, adjustable gamma correction, stereo
Resolutions Supported	1152 x 900 @ 76 Hz 1280 x 1024 @ 76 Hz Stereo (960 x 680 @ 112 Hz) NTSC, PAL	1152 x 900 @ 76 Hz, 1280 x 1024 @ 76 Hz, 1280 x 800 @ 76 Hz, Stereo (960 x 680 @ 112 Hz) NTSC, PAL 24-inch monitor support (available on Creator3D — single buffered only) 1440 x 900 @ 76 Hz, 1600 x 1000 @ 76/66 Hz, 1920 x 1200 @ 70 Hz
Software Interfaces	X, XIL™, XGL™, OpenGL, Java 3D™, third-party interfaces	

## Highest Performance Achievable\*

<b>Xmark93</b>	30.3	30.3	30.8	31.4
<b>2-D Vec/Sec</b>	4.1 M	4.1 M	2.6 M	3.7 M
<b>3-D Vec/Sec</b>	3.7 M	3.7 M	4.9 M	8.2 M
<b>3-D AA** Vec/Sec</b>	—	2.2 M	4.8 M	6.3 M
<b>3-D Triangles/Sec (25 Pixel)</b>	—	1.4 M	3.0 M	5.9 M
<b>3-D Quadrilaterals/Sec</b>	—	473 K	1.3 M	1.3 M
<b>PLBwire93</b>	225	225	272.4	379.2
<b>PLBsurf93</b>	—	317	476.7	625.8
<b>CDRS-03 (OpenGL 1.1)</b>	—	50.9	74	130.1
<b>DX-03</b>	—	9.5	19.9	19.9

\* Performance numbers are subject to change.

\*\* AA — Antialiased

Specifications are subject to change without notice.

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